

# Measuring the Communication Performance of Individuals who use AAC

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## ABSTRACT

Two National Institutes of Health (NIH) grants have supported the development of language activity monitoring (LAM). LAM data can be analyzed using the AAC Performance Report Tool (PeRT). This poster summarizes the use of these tools to support AAC evidence-based practice.

## AAC Values

Many people who use AAC indicate that the most important things to them are:

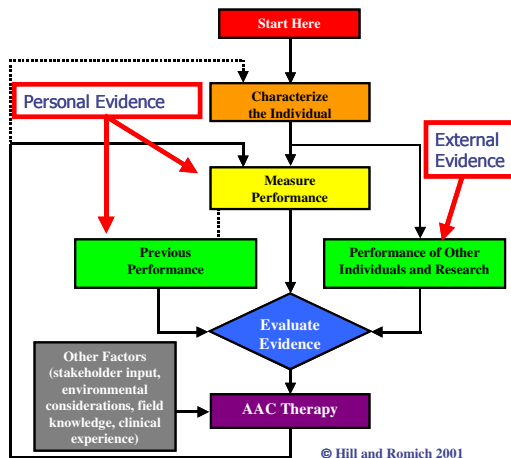
- 1) Saying exactly what they want to say.
- 2) Saying it as fast as they can.

AAC service delivery must honor these values.

## AAC Evidence-Based Practice

AAC evidence-based practice consists of:

- 1) Formulating and asking meaningful, value-based, prioritized questions.
- 2) Searching and analyzing external evidence.
- 3) Collecting and reviewing personal evidence (communication performance.)
- 4) Using the evidence to guide assessment and intervention.

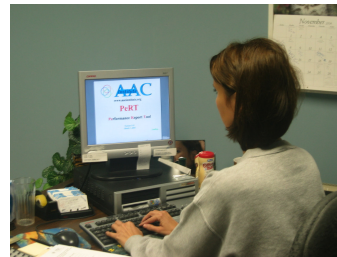


AAC performance measurement serves as the foundation on which the evidence-based practitioner makes service delivery decisions. Use of these tools and methods is consistent with the ASHA Scope of Practice and the Knowledge and Skills document

**U-LAM** is software that supports AAC language sample collection and **PeRT** is software that facilitates the generation of the **AAC Performance Report** of seventeen quantitative summary measures of communication performance. This application supports the analysis of **language activity monitoring (LAM)** data by uploading a saved logfile, segmenting the utterances, and performing the analysis.



Collecting an AAC language sample using U-LAM



Analyzing an AAC language sample using PeRT

The image shows two screenshots. The left screenshot is the 'AAC Performance Report' generated by PeRT, displaying various quantitative measures of communication performance. The right screenshot shows the PeRT software interface, which includes a 'Method of Generating Words' section and a 'Communication Rate by Method' graph.

AAC Performance Report	
Subject Number: 103	LAM data file: 00021_Lin_anc
DOB: 2 May 1977 (Age 25)	User or Reporter: B. Mar-20
Language Representation Method: (check all that apply)	Location: Voc Rehab, OH
Language: X SEM, X VPH, X SPE, X OV	Examiner: B. Romich
Selection Method: Keyboard	Transcriber: K. Hill
AAC System: Unity 10 (10 mo) on Pathfinder (8 mo)	Sample time: 57 minutes
Number of selections per line in spelling: 1	
Number of total array selections when spelling: 528	
Language Sample Context (check 1)	
<input checked="" type="checkbox"/> Interview	<input type="checkbox"/> Natural Environment
<input type="checkbox"/> Conversation (M Partner)	<input type="checkbox"/> Other:
<input type="checkbox"/> Monologue	<input type="checkbox"/> Conducted remotely via AOL Instant Messenger
Picture description	
*Conducted remotely via AOL Instant Messenger	
Section 1: Utterance-Based Summary Measures	
A. Total utterances:	27
B. Complete utterances (%):	96%
C. Method of Generating Utterances (%):	96%
D. Mean Length of Utterance in Words (MLUw):	8.43
E. Mean Length of Utterance in Morphemes (MLUm):	30.30
F. Average Communication Rate (words / minute):	10.75
G. Peak Communication Rate (words / minute):	14.97
Example: is remembered by myself and I'm actually my utility teacher because I hope I might be playing around with it	
Section 2: Word-Based Summary Measures	
H. Total Number of Words:	440
I. Different Word Pools:	175
J. Core Vocabulary Use (%):	
*SEM = Single Missing Entries; SEM = SEMantic; Compounds = Compounds; VPH = Verbal Phrase; VPH = Verbal Phrase; VPH = Verbal Phrase	
Section 3: Appendices (attached)	
R. LAM data	<input checked="" type="checkbox"/> Frequency order word list
S. Utterances	<input checked="" type="checkbox"/> Word list by method of generation
T. Alphabetical order word list	<input type="checkbox"/> Test version report
or additional information on methods, tools, services, and evidence to support AAC evidence-based practice, visit the web site of the AAC Institute. AAC Institute is a not-for-profit charitable organization dedicated to the most effective communication for people who rely on AAC. Additional analyses of language samples can be performed using Systematic Analysis of Language Transcripts (SALT) available at <a href="http://www.saltproject.org">http://www.saltproject.org</a>	
AAC Institute provides the service of generating this AAC Performance Report from language samples collected using language activity monitoring (LAM).	
<a href="http://www.aac institute.org">www.aac institute.org</a>	

## Language Sample Collection

Language activity monitoring (LAM) is the automatic recording of the time and content of AAC system language events.

EXAMPLE: From actual logged sample interview

"It's faster than spelling everything out which is what I used to do"

16:26:05 SEM "It's "	16:26:48 SPE "g"
16:26:08 SEM "faster "	16:26:49 SPE " "
16:26:14 SEM "than "	16:26:58 SEM "everything "
16:26:41 SPE "sp"	16:27:02 SEM "out "
16:26:42 SPE "e"	16:27:05 SEM "which "
16:26:45 SPE "l"	16:27:08 SEM "is "
16:26:45 SPE "l"	16:27:11 SEM "what "
16:26:46 SPE "i"	16:27:14 SEM "I "
16:26:47 SPE "n"	16:27:19 SEM "used "
	16:27:22 SEM "to do "

LAM is a built-in feature in modern high performance AAC systems. Language samples can be collected from any speech output AAC system that doesn't have LAM by using U-LAM software with a PC.

Language samples can be collected using conversation, interview, picture description, therapy activities, or in the natural environment.

## Language Sample Analysis

LAM data can be analyzed to report many quantitative summary measures of communication performance. Performance Report Tool (PeRT) generates the AAC Performance Report of seventeen summary measures plus six appendices. The analyses of periodic language samples can serve as a history of progress.

## ACKNOWLEDGEMENT

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